

REMARKS

Claims 5 and 11-16 were previously pending in the application. Claims 13, 15 and 16 are canceled. Therefore, claims 5, 11, 12 and 14 are presented for consideration.

Canceling claims 13 and 15 is believed to obviate the 35 USC 112, second paragraph rejection as to these claims.

Claims 5 and 11 were rejected as anticipated by MOON et al. 5,719,085. Claims 5 and 11 were also rejected as obvious over MOON et al. These rejections are respectfully traversed.

Claim 5 is amended to recite controlling a concentration of DCE within a range between 0.45 and 1.97% by weight. Support for this limitation can be found on page 15, paragraph [0062], for example.

Column 5, lines 45-50 of MOON disclose trench oxidation using a Kokusai Vertron III vertical diffusion furnace with an oxygen/DCE ambient with an approximately 9% HCl to O₂ equivalency.

MOON does not teach or suggest controlling a concentration of DCE within a range between 0.45 and 1.97% by weight as recited.

As the reference does not disclose that which is recited, neither the anticipation rejection nor the obviousness rejection is viable. Reconsideration and withdrawal of the rejections are respectfully requested.

Claim 11 is amended along the lines of claim 5 and thus the analysis above regarding claim 5 is equally applicable to claim 11.

Claim 16 was rejected as unpatentable over MOON et al. in view of CHANG et al. 6,566,224. That rejection is respectfully traversed.

Claim 5 is amended to include the subject matter of claim 16 and recites controlling a concentration of DCE within a range between 0.45 and 1.97% by weight, to thereby render a stress imposed on the upper corner portion of the trench to less than 100 MPa.

Neither MOON nor CHANG teaches improving a stress imposed on the upper corner portion of the trench.

In contrast, paragraph [0062] of the present application teaches reducing stress at the upper corner portion to less than 100 MPa to improve the defective fraction.

Moreover, the motivation offered in the Official Action for combining the references is not supported by the teachings of the references.

Column 5, lines 20-25 of CHANG teach that oxidation begins to occur at about 950°C, but rounding of the corners does not occur until higher temperatures. MOON teaches rounding corners at 920°C.

Since CHANG requires temperatures higher than 950°C to obtain rounded corners, it would not have been obvious to combine CHANG with MOON.

In addition, CHANG's oxidation is based on a filled trench. There is no suggestion that the oxidation method of CHANG would work equally as well on an exposed trench.

Based on the above, it is apparent that there is no motivation to combine the references in the manner suggested and in any event, the references do not teach each of the recited features.

Claims 12 and 14 were rejected as unpatentable over MOON et al. in view of CHAU et al. 5,891,809. That rejection is respectfully traversed.

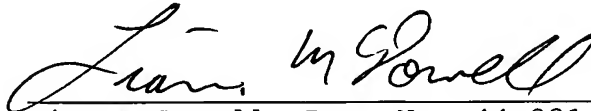
CHAU is only cited for the teaching of bubbling nitrogen through DCE. CHAU does not teach or suggest what is recited in claims 5 and 11. As set forth above, MOON does not teach or suggest what is recited in claims 5 and 11. Since claims 14 and 12 depend from claims 5 and 11, respectively, and further define the invention, claims 12 and 14 are believed patentable at least for depending from an allowable independent claim.

In view of the present amendment and the foregoing remarks, it is believed that the present application has been placed in condition for allowance. Reconsideration and allowance are respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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A handwritten signature in cursive script, reading "Liam McDowell", written in dark ink.

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